

Response to Comments
Berry Brush WUI Hazardous Fuels Reduction Project

Center for Biological Diversity (CBD), The John Muir Project of Earth Island Institute (JMP),
February 26, 2021:

1. *“It is not clear to us where “Salvage Cut” will occur or how much of it will occur...(1) how much of each treatment will occur, and (2) where on the map each treatment will occur.”* Project development includes field surveys during this field season to identify where salvage is a viable treatment and where other service work (e.g. mastication, hand-cut) is better suited. We are planning a site visit for Butte County Fire Safe Council in October or November. The public will be welcome to join us.
2. *“...snags of all sizes are of great value to Sierra wildlife as discussed in the following publications:” (24 references, four documents provided)* The three avian monitoring reports (Fogg et al. 2015, 2016, 2017) and article (Roberts et al. 2021) provided, support moderate-high-severity fire as a uniquely important component of the landscape and to consider the area of a fire that burned at high severity, as opposed to the area of the entire fire, when determining what percentage of the fire area to salvage log. The fire burned some 202,000 acres of National Forest System (NFS) lands on the Feather River Ranger District including forested land in the wildland urban interface (WUI) around Berry Creek and Brush Creek. 57% burned at high-severity (75%-100% basal area mortality). The project proposes salvage logging on about 2% of the approximately 115,000 acres of NFS lands that burned at high severity in this fire.
3. *“We believe that authorizing the “Salvage Cut” aspect of this project via section 605 is not appropriate because the project seeks to salvage log dead trees of all sizes and therefore is not entirely a hazardous fuels project.”* The categorical exclusion framework (project record) explains why the CE established in Section 605 of HFRA for hazardous fuels reduction projects in designated areas on National Forest System lands is appropriate for this project. It provides a background to the project, a description of the proposed activities, why the activities fit within an established category, and addresses extraordinary circumstances.
4. *“The scoping letter cites Coppoletta et al. 2016, but that paper does not support logging any snag as fuel reduction...does not address the importance of reburns to wildlife...nor address the broad importance of post-fire complex early seral forest, such as the snags and shrubs created by moderate-high severity burns.”* The threshold at which snag basal area became strongly associated with high-severity reburn in our (Coppoletta et al. 2016) analysis (43 m²/ha) exceeded the live tree threshold (e.g., 34.4 m²/ha for pine-mixed conifer) often used by forest managers as an indicator of greater susceptibility to insect infestation. This finding suggests that forest conditions prior to the initial fires may have ultimately influenced reburn severity by promoting the conversion of dense pre-fire forest stands to dense post-fire standing snags.

The extent of shrub vegetation dramatically increased as a result of high-severity fire during the initial fires. Historically, shrubs were a common component of Sierra Nevada mixed-conifer forests, but had a very patchy distribution. This heterogeneous occurrence of shrubs within a matrix of overstory trees serves as important habitat for many species of wildlife and contributes to greater fine-scale heterogeneity across the landscape. Large shrub patches, however, have the potential to homogenize landscapes.

It is important to remember that this project is a hazardous fuels reduction project in WUI and that the project area burned under high-severity (75%-100% basal area mortality). There are other areas within the fire perimeter that burned at moderate-(50%-75% basal area mortality) high-(75%-100% basal area mortality) severity and that are not located in the WUI.

5. *“Furthermore, section 605 requires projects to “maximize the retention of old-growth and large trees, as appropriate for the forest type, to the extent that the trees promote stands that are resilient to insects and disease, and reduce the risk or extent of, or increase the resilience to, wildfires.”* The categorical exclusion framework (project record) explains why the CE established in Section 605 of HFRA for hazardous fuels reduction projects in designated areas on National Forest System lands is appropriate for this project. It provides a background to the project, a description of the proposed activities, why the activities fit within an established category, and addresses extraordinary circumstances.
6. *“...we do not see any explanation regarding the CSO area logging that is shown on the original map, such as whether that area is known to be occupied, what surveys occurred, and other information about the status of that area for owls.”* The fire burned portions of California spotted owl (CSO) protected activity centers (PAC) including one in the project area. The 2004 Sierra Nevada Forest Plan Amendment (SNFPA) provides for boundaries of PAC to be reviewed and adjusted as necessary to better include known and suspected nest stands and encompass the best available 300 acres of habitat. Project planning includes identifying replacement acres that are better suited for habitat following SNFPA designation guidance.
7. *“...when snags with nest cavities containing chicks of woodpeckers, bluebirds, or other cavity-nesting bird species, are felled, the chicks are killed, either due to impact or starvation soon after logging. Similarly, chicks of shrub/ground-nesting birds, such as orange-crowned warblers, yellow warblers, chipping sparrows, wrentits, and mountain quail, are killed when logging occurs during nesting season...post-fire logging that occurs during the nesting season can lead to significant impacts to the harm and even direct mortality it can cause...”* Many more species occur at high burn severity sites starting several years post-fire, however, and these include the majority of ground and shrub nesters as well as many cavity nesters. Secondary cavity nesters, such as swallows, bluebirds, and wrens, are particularly associated with severe burns, but only after nest cavities have been created, presumably by the pioneering cavity-excavating species such as the black-backed woodpecker. Consequently, fires that create preferred conditions for black-backed woodpeckers in the early post-fire years will likely result in increased

nesting sites for secondary cavity nesters in successive years (Siegel et al. 2012). Salvage activities will be the first to take place as timber value decreases as the standing timber deteriorates. Cavity nesters are less likely to have colonized and begin creating nesting sites for secondary cavity nesters. Tingley et al. (2018), concluded that although fire size does not affect colonization rates, larger fires do have lower woodpecker densities. White et al. (2019), had few detections in the Rim and King fires compared to other fires in the region.

8. *The Forest Service is aware of this issue as its Conservation Strategy for black-backed woodpeckers states: “To avoid cutting down active nest trees . . . avoid harvest between May 1 and July 4 (though some outlier nests may already be active in late April and others may still be active throughout all of July) . . .”* A conservation strategy for the black-backed woodpecker (*Picoides arcticus*) in California – version 2.0 (Siegel et al. 2018) makes clear that the black-backed woodpecker is not presently considered threatened or endangered at either the state (California) or federal level. The referenced recommendations are part of one of nine recommendations for managing recently burned forest to preserve and promote habitat for black-backed woodpeckers. This recommendation also includes conducting broadcast surveys to identify unoccupied stands. The recommendations also include retaining patches of burned forest for black-backed woodpeckers. Again, this project proposes treating about 2% of the approximately 115,000 acres of NFS lands that burned at high severity in this fire.

Sierra Pacific Industries (SPI), February 12, 2021:

1. *“SPI supports the use of designation by damage class regarding salvage and following the marking guidelines set forth in Report # RO-11-01 Marking guidelines for fire-injured trees in California (Smith and Cluck 2011). Hazard tree areas can be identified using a combination of the above guidelines and USFS Report # RO-12-01 Hazard tree guidelines for Forest Service facilities and roads in the Pacific Southwest Region (Angwin et al 2012).”* The Forest Service appreciates SPI commenting during scoping and participating in the collaborative development of this and other projects on the Feather River Ranger District.
2. *“The project is entirely within the WUI’s of Berry and Brush Creek communities. Tree removal is critical for public safety, fuels reduction, reforestation, and recovering some economic value. The standing burned timber will remain a safety hazard for homeowners, wood workers, FS personnel, and the public until they are addressed and removed.”* The January, 2004, Sierra Nevada Forest Plan Amendment provides for ecosystem restoration following catastrophic disturbance events through the salvage harvest of dead and dying trees conducted to recover the economic value of this material and to support objectives for reducing hazardous fuels, improving forest health, reintroducing fire, and/or reestablishing forested conditions.

Section 605, of the Healthy Forests Restoration Act (HFRA) authorizes hazardous fuels reduction projects that reduce the risk or extent of, or increase the resilience to, wildfires.

3. *“Herbicide treatment will be needed to control competing vegetation for successful regeneration.”* The proposed project includes site preparation and release treatments by application of herbicides to control competing vegetation (target species would be

primarily the shrub species ceanothus, manzanita, deer brush, Himalayan blackberry and other species as necessary). Herbicides would be limited to glyphosate and triclopyr using a targeted backpack sprayer and cut-and-daub methods to enhance the success of natural regeneration or regeneration on sites that will be replanted.

4. *“SPI has begun an extensive restoration effort across our ownership damaged by the North Complex/Bear Fire. We have properties that share a common boundary with National Forest ownership in this project. SPI’s long-term investment will be in jeopardy without treatments on the USFS side of the line. Treatment along the common boundary with private-industrial property needs to be one of the objectives of the project. Please consider treatment along common boundaries with private residential and private industrial lands in your analysis.”* The Forest Service appreciates SPI commenting during scoping and participating in the collaborative development of this and other projects on the Feather River Ranger District. The map provided with the proposed action shows that most of the treatment stands are along roadsides and boundaries with other landowners. We are receptive to specific suggestions on locations and/or treatments.
5. *“In terms of importance relative to the 200,000+ acres burned on the Feather River District; this project ranks towards the top of the list. Berry Creek and Brush Creek communities need an aggressive, effective, and timely response from the USFS to address the imminent hazards and future fuel loading that will occur and could potentially lead to another catastrophic wildfire.”* After the Bear Fire burned some 202,000 acres of National Forest System (NFS) lands on the Feather River Ranger District we put our green tree vegetation management program on hold to deal with burned ground response. We are working in year one to address lower elevation ground (Berry Brush WUI, Feather Falls Post-Fire, and Rogers Cow Camp Salvage projects) in the wildland urban interface, nearby main arterial roadways, and at major recreation sites. Our second year will try to strategically address severely burned ground at higher elevations. After two-years remaining responses will by necessity consist of service work.
6. *“SPI supports the Forest Service’s assessment that this project falls within the scope of HFRA Title I Section 605 and qualifies for authorization under a Categorical Exclusion (CE) and authorized hazardous fuels reduction project.”* The categorical exclusion framework (project record) explains why the CE established in Section 605 of HFRA for hazardous fuels reduction projects in designated areas on National Forest System lands is appropriate for this project. It provides a background to the project, a description of the proposed activities, why the activities fit within an established category, and addresses extraordinary circumstances.

Sierra Forest Legacy (SFL), April 27, 2021:

1. *“Provide clear description of which activity or suite of activities will be authorized under which CE category, including explanation of why an activity or suite of activities are deemed eligible under a specified CE category. This information will help the public better understand intended Forest Service actions.”* The categorical exclusion framework (project record) explains why the CE established in Section 605 of HFRA for hazardous fuels reduction projects in designated areas on National Forest System lands is appropriate for this project. It provides a background to the project, a description of the

proposed activities, why the activities fit within an established category, and addresses extraordinary circumstances.

2. *“Articulate goals and timelines for desired post-project fuelscape conditions and how these goals and timelines are to be achieved. This information will insure hazardous fuels reduction actions are both appropriate and achievable.”* The detailed silvicultural prescription (project record) establishes treatments for removal of fire injured or killed trees that will contribute to the stand objectives by reducing fuel loading and lowering the risk of post-fire beetle outbreaks. Improving landscape resilience to future disturbance events through density, size class, and species composition management will be critical to maintaining a healthy forested landscape. In most cases brush removal and/or oak pruning will effectively reduce competition for limited water and nutrients and reduce the susceptibility to future wildfire-caused tree mortality for many years. Forest restoration treatments will maximize the retention of resprouting oaks and other native hardwoods, to the extent that the trees promote stands that are resilient to insects and disease.
3. *“Articulate goals for desired long-term reforestation outcomes, and how these outcomes are to be achieved. This information will assure the public that actions we take today can grow into desired future forest conditions, rather than perpetuate the fire risk problems we face today.”* From the 2004 Sierra Nevada Forest Plan Amendment, desired condition is a statement describing a common vision for a specific land area. Appropriate to this project are wildland urban intermix.

Through the collaborative process, we have received guidance, advice, and literature from research foresters and ecologists from Pacific Southwest Research Station (PSW), Pacific Northwest Research Station (PNW), and University of California Davis (US Davis). This includes establishing a network of permanent monitoring plots to quantify short- and long-term effects of variable density retention salvage logging on forest structure, fuel succession, and wildfire behavior by Morris C. Johnson, research fire ecologist, Pacific Northwest Research Station.

4. *“We would like the FRRD to provide more detailed information about which treatments will occur where, and we would be glad to discuss this information with you and other stakeholders.”* Project development includes field surveys during this field season to identify where salvage is a viable treatment and where other service work (e.g. mastication, hand-cut) is better suited. We are planning a site visit for Butte County Fire Safe Council in October or November. The public will be welcome to join us.

The Feather River Ranger District remains committed to a collaborative approach to addressing our management activities. We continue to meet with interested parties in the forest, to utilize video platforms to hold meetings, chat, or share documents. As the country and California continue to reopen (although subject to trends in Covid-19 transmission rates) we look forward to additional opportunities to engage with shareholders.

5. *“The PIN states the project is initially thought to fall within the Categorical Exclusion (CE) authorized and described in HFRA Section 605 (CE 605), and that CE 605 “authorizes hazardous fuels reduction projects that reduce the risk or extent of, or increase the resilience to, wildfires.”* The categorical exclusion framework (project record) explains why the CE established in Section 605 of HFRA for hazardous fuels

reduction projects in designated areas on National Forest System lands is appropriate for this project. It provides a background to the project, a description of the proposed activities, why the activities fit within an established category, and addresses extraordinary circumstances.

6. *“If regulators believed post-fire salvage of all snags was already contemplated under CE 605, why would available CE’s include the specific CE 13 to address post-fire salvage?”* The CE found in 36 CFR 220.6(e)(13) salvage of dead and/or dying trees not to exceed 250 acres (CE 13), is a category established by the Agency. It first appeared in April 1991 as salvage of up to 1,000,000 board feet or less. It has been in the code of federal regulations in the present wording (see above) since January of 2003.

Over the past several years, Congress has established new or revised existing CEs or exceptions from NEPA for use by the Forest Service. The Consolidated Appropriations Act of 2018 ([Pub. L. 115-171](#)) amended Title VI of the Healthy Forests Restoration Act of 2003 (HFRA) ([16 U.S.C. 6591](#) et seq.) to add Section 605. Section 605 establishes a categorical exclusion for hazardous fuels reduction projects in designated areas on National Forest System lands. The CE in Section 605 was not created for the sole purpose of excepting larger salvage sales, but the use of salvage harvest as a tool to help accomplish hazardous fuels reduction goals consistent with Section 605, is not limited by the statutory exclusion.

7. *“...the Berry Brush PIN references Coppoletta et al. (2016) to describe how current post-North Complex Fire snags represent a positive feedback trajectory of hazardous fuels likely to result in high severity fire during subsequent reburns. This could lead to consideration of large snags beyond striking distance as hazardous and promote their removal. The same study points out that large snags are wildlife benefits. Post-fire management needs to balance removal of what poses reburn hazard, with retention of what provides benefits to wildlife.”* Coppoletta et al. (2016) speaks specifically to contemporary fires with extensive stand-replacing fire. The findings suggest that forest conditions prior to the initial fires may have ultimately influenced reburn severity by promoting the conversion of dense pre-fire forest stands to dense post-fire standing snags. It is important to remember that this project is a hazardous fuels reduction project in WUI and that the project area burned under high-severity (75%-100% basal area mortality). In this specific circumstance the large numbers of fire-killed trees are a fuels hazard. However, we will retain large snags and large down per SNFPA standards and guidelines for their wildlife benefits.
8. *“We have reviewed the updated project map (North Complex: Berry Brush WUI Hazardous Fuels Reduction Project map dated February 24, 2021) where project acreage (2,439 acres) are classified into five priority areas. We would like more information on what criteria have been used to prioritize treatment areas as illustrated on the updated project map, i.e., what distinguishes Priority 1 areas from Priority 2-5 areas, etc.?”* The map with acres prioritized 1-5 is to guide survey efforts in a coordinated effort. Stands labeled 1-3 are at lower elevation. Roads labeled 1 are good ground off roads with higher use than those labeled 2 or 3. Those labeled 2 or 3 are off lighter use roads, on more difficult ground, or would be less marketable in a timber sale. Stands labeled 4 and 5 are at higher elevation and prioritized close to roads and farther

from roads. This is a survey effort map, and not a final project map. Results of the survey season will inform the decision map.

9. *“Are all roads along which roadside hazard salvage is proposed for Berry Brush currently authorized within the Forest Service System roads?”* They are not. As the project is developed the IDT will review all the roads to determine if they are system roads or trails, if they are non-system, or if they have previously been closed. After that there will be discussions of if they are closed, is no reason to work off them, or should they be maintained so that they could be opened administratively to fight wildfire or control prescribed fire. *“Is the 4WD route through the PAC in Unit #14 an authorized Forest System road? Could the Plumas NF provide us with an updated FS System roads GIS layer for the Plumas NF?”* Large parts of this PAC (and many others) burned at high-severity as well as the associated HRCA burning at moderate-(50%-75% basal area mortality) high-(75%-100% basal area mortality) severity. The 2004 Sierra Nevada Forest Plan Amendment (SNFPA) provides for boundaries of PAC to be reviewed and adjusted as necessary to better include known and suspected nest stands and encompass the best available 300 acres of habitat. Project planning includes identifying replacement acres that are better suited for habitat following SNFPA designation guidance. Proximity to roads and the relative importance of those roads will be part of the project planning.

We can provide you with the most recent layers of the motor vehicle use map (MVUM).

10. *“Related to roadside salvage and hazard abatement, we recommend the FRRD include roadside project Design Criteria that will prevent roadside treatment areas becoming off-road excursions entry points.”* Appropriate design criteria will be part of the management requirements to reduce or prevent adverse effects developed for this project.
11. *“We would like to better understand the process by which the Plumas NF updates their forest's WUI lands designations so that we can better track how and when this is done. Can the FRRD provide information about this process, or direct us to where we can find more information?”* In accordance with the Healthy Forest Restoration Act (HFRA) of 2003, wildland urban interface (WUI) means an area within or adjacent to an at-risk community that is identified in recommendations to the Secretary in a community wildfire protection plan (CWPP). The Forest Service is a member of the CWPP working groups for counties occupied by NFS lands. This project lies within Butte County where the Plumas National Forest is represented by the Feather River District Ranger.

The wildland urban interface (WUI) in Butte County consists of communities at risk as well as the area around the communities that pose a fire threat. There are two types of WUI environments. The first is the true urban interface where development abruptly meets wildland. Within Butte County the town of Paradise and the community of Paradise Pines are examples of high-density housing meeting wildland. The second WUI environment is referred to as the wildland urban intermix. Wildland urban intermix communities are rural, low density communities where homes are intermixed in wildland areas. For Butte County the communities of Cohasset, Forest Ranch, Concow, Yankee Hill, Berry Creek and Forbestown are examples. Wildland urban intermix communities are difficult to defend because they are sprawling communities over a large geographical area with mixed vegetation types throughout. This profile makes access, structure defense, and fire control difficult as fire can freely run through the community. There are

over 30,000 structures spread throughout the SRA in the Butte Unit. This home construction has created a new fuel load within the wildland and has caused a shift in firefighting tactics to life safety and structure defense. Human impact on wildland areas has made it much more difficult to protect life and property during a wildland fire (Butte County Community Wildfire Protection Plan 2020-2025).

<https://buttecounty.opennrm.org/cwpp/community-wildfire-protection-plan>

12. *“Regarding reforestation planting proposed for Berry Brush, Feather Falls, Rogers Cow Camp, and other post-North Complex Fire projects, we urge the FRRD to follow the guiding principles described in the Framework and emphasized in Dr. Merriam's presentation.”*
 - a. PSW-GTR-270: Although PSW-GTRR-270 has only been published since February of this year, we have worked and collaborated with contributors and with other research foresters and ecologists on post-fire projects involving the Camp Fire and now the Bear Fire of the North Complex. These interactions and the science on which the GTR is based informed our North Complex rapid assessment and subsequent prioritization of activities. Preliminary analysis using RAVG shows that over 100,000 acres of forestland was deforested by the North Complex Fire. Natural regeneration may be expected on some acres, but artificial regeneration (planting) will likely be needed as well. Meanwhile we are also documenting areas where fire improved ecological conditions.
 - b. ICO: We continue to work with researchers and to develop reforestation plans that explore and incorporate concepts, guidance, and findings that move us towards desirable future structure for reforestation efforts. Derek Young, research ecologist, UC Davis, proposes to study early post-fire forest dynamics (e.g. seedling establishment, fire injury to trees, and delayed mortality) to determine whether accounting for initial post-fire conditions can better explain regeneration patterns and therefore improve models for predicting post-fire regeneration, and serve as a baseline for repeat surveys of the same plots in future years, to understand how well initial recovery patterns relate to longer-term recovery success. Morris C. Johnson, research fire ecologist, Pacific Northwest Research Station, is establishing a network of permanent monitoring plots to quantify short- and long-term effects of variable density retention salvage logging on forest structure, fuel succession, and wildfire behavior.
 - c. Post-fire restoration modeling tools: Coppoletta (2020) applied a spatially explicit model developed by Shive et al. (2018) to produce a five-year post-fire predictive map of potential conifer regeneration following the 2020 Claremont-Bear Fire on the Plumas National Forest. Merriam (2021) used spatial data compiled by Thorne et al. (2020) to identify vegetation refugia. These are areas where vegetation occurring prior to the North Complex Fire is expected to persist under future projected climates.
13. *“Our organization would be very interested in continuing collaboration with the forest service to take advantage of the opportunity for post-fire forest management that incorporates the concepts of ICO forest structure and pyrosilvicultural strategies that a fire of this scale and intensity provides.”* The Feather River Ranger District remains committed to a collaborative approach to addressing our management activities. We continue to meet with interested parties in the forest, to utilize video platforms to hold

meetings, chat, or share documents. As the country and California continue to reopen (although subject to trends in Covid-19 transmission rates) we look forward to additional opportunities to engage with shareholders. To be thorough and document the Forest Service response, these responses become part of the project record.